

#### ABSTRACT OF THE DISCLOSURE

In order to solve a problem of an accumulation on the transmission side, a delay on the reception side, and the like at the time of transmission in a communication system such as a wireless LAN system, each communication station in a network transmits a beacon in which information with respect to the network is written and sets a state in which a reception operation is performed during periods of time before and after the transmission of the beacon signal when performing access control not to make communication timing of a packet collide with that of another station by detecting a signal transmitted from another station. With performing such processing, a system can be formed based on minimum level of transmission and reception operation when transmission and reception data does not exist in each communication station in the network, and also a data transfer can be performed with latency as small as possible in a minimum necessary level of transmission and reception operation by making a transition of a transmission and reception state in accordance with a fluctuating volume of transmission and reception data.